



US006259828B1

(12) **United States Patent**  
**Crinon et al.**

(10) **Patent No.:** **US 6,259,828 B1**  
 (45) **Date of Patent:** **\*Jul. 10, 2001**

(54) **SPRITE-BASED VIDEO CODING SYSTEM  
 WITH AUTOMATIC SEGMENTATION  
 INTEGRATED INTO CODING AND SPRITE  
 BUILDING PROCESSES**

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(\*) Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/493,410**

(22) Filed: **Jan. 28, 2000**

#### Related U.S. Application Data

(62) Division of application No. 08/999,103, filed on Dec. 29, 1997.

(60) Provisional application No. 60/034,558, filed on Dec. 30, 1996.

(51) Int. Cl.<sup>7</sup> ..... **G06K 9/54**

(52) U.S. Cl. .... **382/305; 382/232; 382/236;  
 382/276; 382/284; 348/588; 348/584; 348/598;  
 358/403; 358/450; 707/1; 707/3**

(58) Field of Search ..... **382/154, 232,  
 382/284, 305, 236, 240; 348/584, 586,  
 588, 598; 358/403, 404, 426, 450; 707/1,  
 3, 10**

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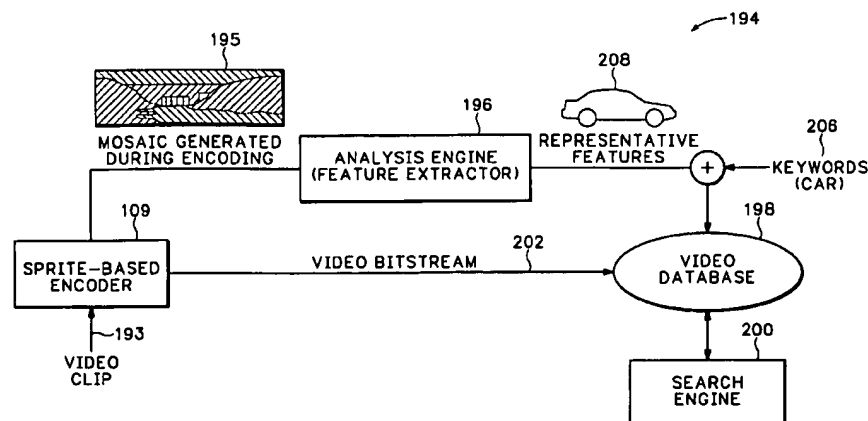
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#### ABSTRACT

A sprite-based coding system includes an encoder and decoder where sprite-building is automatic and segmentation of the sprite object is automatic and integrated into the sprite building as well as the coding process. The sprite object is distinguished from the rest of the video objects on basis of its motion. The sprite object moves according to the dominant component of the scene motion, which is usually due to camera motion or zoom. Hence, the sprite-based coding system utilizes dominant motion, to distinguish background images from foreground images. The sprite-based coding system is easily integrated into a video object-based coding framework such as MPEG-4, where shape and texture of individual video objects are coded separately. The automatic segmentation integrated in the sprite-based coding system identifies the shape and texture of the sprite object

**8 Claims, 11 Drawing Sheets**



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